

# YOLO FLYWAY

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## *New Species Discovered in Yolo Bypass*

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**A**mong the seasonal wetlands, shore-birds and migrating waterfowl, one of the common sights in the Bypass is clouds of insects. Most are midges, small flies known technically as chironomids. While dense clouds of midges can be annoying to motorists, they are a major food source for a wide variety of species including birds, bats and fishes. Since 1998, we have been studying how chironomids support young Chinook salmon, a fish that migrates seasonally into the Yolo Bypass during high flow events. Our research has shown that the seasonal floodplain habitat generates dramatically higher levels of chironomids than the adjacent Sacramento River, resulting in better salmon feeding, faster growth, and perhaps improved survival.

One of the big challenges in our research project is that there are often many different species of chironomids present in ponds or wetlands, each with a complicated life cycle. In late 2004 and early 2005, we conducted studies to try and identify some of the major groups of chironomids and their habitats. Our sampling in different parts of the Yolo Bypass included: 1) netting of insects in ponds and seasonal wetlands; 2) rehydration (wetting) of dried floodplain soils in the laboratory; 3) netting of insect drift in Yolo Bypass tributaries (e.g. Putah and Cache Creeks); and 4) netting of insect drift in different parts of the floodplain.

One of the biggest surprises in this study was that the chironomid fauna during flood

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## **Yolo Wildlife Area Management Plan Is On Its Way**

*by Dave Feliz, Manager Yolo Wildlife Area*



*Spectacular numbers of snow geese descended upon the Tule Ranch in the month of February*

**A**t last the land management plan for the Yolo Wildlife Area is nearing completion. The last management plan was completed in 1992 and dealt with the original 3700 acres. If success can be measured in numbers of words, this new plan is already a resounding success, coming in at over 300 pages.

The world has changed a bit since the State Wildlife Conservation Board acquired the Glide and Los Rios property for State Fish and Game's Yolo Wildlife Area in 2001. At that time, there were calls for the acquisition to be subject to an environmental review process pursuant to the California Environmental Quality Act (CEQA). The Department of Fish and Game felt that this was hardly necessary and in fact was not possible because we could not foresee what sorts of goals and tasks would be proposed on the new lands. This required the develop-

ment of a Land Management Plan. We made assurances that we would not change

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## **Bucks for Ducks**

*October 13, 2006*

*Vets Memorial  
Center, Davis*

## MANAGEMENT, *continued from p. 1*

the land use activities underway at that time, until the plan was completed. Since conversion of agricultural land into wildlife habitat was a major issue, we agreed to maintain the existing agricultural leases on the property and develop ways that agriculture could fit into the long term management of the Wildlife Area.

Fast forward five years and agriculture has become an integral part of the land management strategy for the Wildlife Area, providing both valuable habitat and important income for management activities. New issues that have arisen include the role our wetlands might play in the creation of potentially toxic methyl mercury and the possibility of managing part of the Wildlife Area for specific species of native fish. These are but some of the items that are discussed in the new Land Management Plan.

For the last nine years a group of fine people have been flooding, farming, grad-

ing, educating, hunting, grazing, meeting and generally obsessing about this property, and we have a pretty good idea about what is working, what isn't and why. With funding from the Wildlife Conservation Board, we hired the consulting firm, EDAW to help us craft a comprehensive plan that focused the wealth of information that we had assembled.

A public scoping meeting was held in December of 2005 and about 30 people attended. From this initial feedback and the library of Yolo documents, a first draft was provided for our perusal. After many late night edits, that draft was ready for public comment. This draft document was posted on the Yolo Basin Foundation website in March of 2006, and a series of focus meetings were scheduled. Each meeting highlighted a specific topic including agriculture, public use, fisheries, mercury and flood control.

Yolo Basin Foundation assisted Fish and Game and EDAW with public outreach by

sponsoring the focus meetings. These focus meetings were not a requirement of CEQA, but we thought it was important to encourage public participation in the development of the draft Land Management Plan. It is this inclusive approach that resulted in the creation of the Wildlife Area and pervades our operations every single day.

Extensive feedback was received at each of the meetings. This information is currently being incorporated into a final draft document that will be available in June. This final draft will be available at [www.yolobasin.org](http://www.yolobasin.org) and [www.dfg.ca.gov/](http://www.dfg.ca.gov/).

Public comments on the final draft will be accepted for 30 days, and these will be incorporated into the final plan which is scheduled for completion on October 31, 2006. Once the Yolo Wildlife Area Management plan is complete, we will begin its implementation as soon as funding and staffing permits. Another exciting chapter will be underway! 🐾

## NEW SPECIES, *continued from p. 1*

events was dominated by a single species. Moreover, Dr. Peter Cranston (UC Davis) determined that this was a "new" species, not previously reported in the scientific literature. We were particularly impressed at the discovery of a new species so close to major universities and a large metropolitan area. The description of the new species *Hydrobaenus 'saetheri'* will appear shortly in the Bulletin of the Ohio Biological Survey.

We are presently working on a report of the life cycle and sources of *Hydrobaenus*. Our research revealed that cocoons formed by young larvae of this species remain dormant in Yolo Bypass soils, likely for long periods. Winter flood events cause hatching of these cocoons, rapidly generating high densities of chironomid larvae in the inundated Yolo Bypass. After the aquatic life stage, *Hydrobaenus* emerges from the water as flying adults, which is when most people notice them. The adults survive only for a short period before laying eggs and the cycle repeats itself, depending on the flood cycle. Note that these adults are true midges, not one of the other families of "biting midges" that terrorize the valley during warmer months.

Because of the difficulty in doing this work, we focused our efforts on early winter, when young salmon often use the floodplain as a nursery. Hence, we have yet to describe the range of wetland chironomids that occur throughout the year. However, we have good reason to believe that the fauna would differ substantially as we found that perennial



*Midge larva Hydrobaenus saetheri; Chironomidae (Diptera).*

ponds in the Wildlife Area harbored different species than the rewetted soils we sampled.

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DWR floodplain studies: [http://iep.water.ca.gov/AES/AES\\_Pubs.html](http://iep.water.ca.gov/AES/AES_Pubs.html)

Peter Cranston's chironomid research: <http://entomology.ucdavis.edu/faculty/cranston.html> 🐾